

REMARKS/ARGUMENTS

This is a response to the Office Action of November 14, 2007, in which the three-month deadline for response is February 14, 2008. Accordingly, this response is timely filed.

This response is accompanied with a Request for Continued Examination with the appropriate funds.

Summary of Examiner Telephone Interview

During the Examiner telephone interview of January 30th, 2008, the agent for the Applicant had a discussion with Examiners Keaton and Lu to discuss the nature of the claims of the subject application, the nature of the cited references and the differences between the claims of the subject application and the cited references.

In particular, the agent for the Applicant discussed how the claimed subject matter relates to a touch interface in which areas of the touch interface are associated with letters and that at least some of the areas overlap with one another. The agent for the Applicant then discussed how the claimed subject matter recites detecting a location of a user's touch on the touch interface and identifying the letter associated therewith which can be more than one letter if the location of the user's touch is on a region of the touch interface where the areas of the letters overlap with one another.

The agent for the Applicant then went on to explain how the cited references do not disclose a touch interface in which areas are associated with letters such that at least some of the areas overlap with one another. In particular, the agent for the Applicant discussed how the Chua reference (U.S. 2004/0183833) teaches providing a layout for the keys on a touch screen in which areas of the touch screen associated with the keys do not overlap with one another. The agent for the Applicant further described how Chua teaches using one of several distance-based and layout-based techniques (with non-overlapping key areas) to determine which key the user intended to select after

touching a location on the touch screen. The agent for the Applicant referred to FIG. 3 in Chua as well as the corresponding text on pages 2 and 3 and used this information to show that Chua does not teach associating areas of the touch screen with letters and then overlapping the areas.

The Examiners agreed that there are differences between the subject application and the cited reference. The Examiners also expressed some concern with the portion of the independent claims of the subject invention that recite the association of areas of a touch interface to letters and the overlapping of at least some of these areas and asked for an amendment of this claim language. The Examiners also requested amendment to the independent claims to better define the nature of the overlapping and if such amendments were made to the claims then the current claim rejections should be overcome although the Examiners also reserved the right to perform further searching.

Amendments to the Specification

In this response, paragraphs 4, 6, 9 and 10 have been amended to correspond with the claim amendments made herein. The Applicant submits that these amendments do not add any new matter.

Amendments to the Claims

In this response, claims 1, 6, 13, 14, 16, 17, 22, 29 and 30 have been amended. New dependent claim 34 has been added and no claims have been cancelled. Accordingly, this response is accompanied with payment for 1 extra dependent claim at the large entity rate.

Claim 1 has been amended to recite associating areas of a touch interface of a mobile electronic device with letters wherein at least some of the associated areas are defined to overlap with one another to form intermediate regions that represent more than one

letter. Support for this amendment is in paragraphs 31 and 42 to 50 as well as in Figures 4, 6, 8a and 8b in the application as filed.

Claim 6 has been amended in a similar fashion as claim 1 as well as to properly refer to the antecedent "one or more touch interfaces". Support for these amendments are in paragraphs 31 and 42 to 50 as well as in Figures 4, 6, 8a and 8b in the application as filed.

Claims 13 and 14 have been amended to recite how the overlapping of areas define first and second intermediate regions which are adjacent to one another in claim 13 and not adjacent to one another in claim 14. Support for these amendments is in paragraphs 31, 36 and, 40 to 44 as well as in Figures 4 and 6 of the application as filed.

Claims 16 and 17 have been amended in a similar fashion as claims 13 and 14 respectively.

Claim 22 has been amended in a similar fashion as claim 1 as well as to properly refer to the antecedent "one or more touch interfaces". Support for these amendments are in paragraphs 31 and 42 to 50 as well as in Figures 4, 6, 8a and 8b in the application as filed.

Claims 29 and 30 have been amended in a similar fashion as claims 13 and 14 respectively.

New claim 34 recites a computer readable medium storing instructions for execution by a processor of a mobile device for causing the mobile device to implement the method of claim 1. Support for this claim is in paragraphs 56 and 57 of the application as filed.

Claim Rejections – 35 USC § 102

In sections 2 and 3 of the Office Action, the Examiner rejected claims 1, 3-7, 9, 10, 12, 15, 22, 23, 25, 26, 28 and 31 under 35 USC 102(e) as being anticipated by Chua (US 2004/0183833 A1). In particular, the Examiner argues that for claim 1, Chua teaches a method comprising associating overlapping areas of a touch interface of a mobile electronic device with letters such that each area is associated with only one letter and at least some of the associated areas overlap with one another (page 2, paragraph 23 and 24 in Chua), detecting a location of a user's touch on the touch interface and for each area of the touch interface which includes the location, identifying the letter associated therewith (page 2, paragraphs 19 and 20).

In response, the Applicant respectfully submits that Chua teaches a device with a virtual keyboard on a touch screen in which areas are specified for virtual keys in a non-overlapping manner. In fact, Chua specifically teaches that:

"The virtual keyboard is made up of a number of individual selectable portions in the form of virtual keys, each of which has its own display area"

in lines 1 to 5 of paragraph 19.

The Applicant further refers to Figure 1, which accompanies the description in paragraph 19, and Figure 3, which shows a magnified view of the virtual keyboard and is further described in paragraph 24 of Chua. In both of these Figures, and the corresponding paragraphs, Chua clearly shows that each area associated with a letter is well defined and separate from other associated areas. There is no overlap of these associated areas. Rather, these areas are simply laid out in an adjacent manner such that they simply abut with one another in a non-overlapping fashion.

Furthermore, the Applicant refers to paragraph 62 in which Chua goes into detail with regards to the key layout of Figure 3 and describes how the keys abut one another. In particular, Chua describes the "g" and "h" keys as well as the "y" and "h" keys as having "shared boundaries".

In addition, the Applicant respectfully submits that Chua does not teach alternative embodiments for the layout of the virtual keys, but does teach alternative embodiments for the representative centre position of each key as well as alternative embodiments for methods for determining which key the user intended to select. However, the Applicant submits that shifting the representative location is not the same as associating areas with keys and overlapping some of the areas to define intermediate regions that represent more than one key as will now be shown.

In paragraph 24, Chua teaches that each virtual key has their own representative position as an X-Y co-ordinate, which is initialized to be the center of the area associated with the key. Chua further teaches that once a key is confirmed as having been selected, the offset between the selected position and the representative position of that key can be used to re-calibrate the representative position for the selected key. This is described in the abstract and in paragraph 47 of Chua.

It is important to note that while Chua teaches adjusting the representative position of the keys based on the locations that are touched by the user, the Applicant submits that this merely results in a shifting of a "point" that represents the key but this "point" is still within the overall area that was initially associated to the key and so shifting of the representative point location does not result in shifting the areas of a key and so cannot result in shifting areas of adjacent keys to overlap with one another.

In fact, paragraph 59 of Chua teaches that there must be a check on the amount of shifting of the representative location of the key to make sure that the shifted representative location still bears some relationship to the position of the keys in the virtual keyboard. Chua goes on to specifically say that:

"Alternatively or additionally, no representative position may be allowed to wander too far from its original position, for instance in some embodiments outside the display area of the respective key, or in other embodiments farther then halfway towards any of the edges of the key"

in lines 6 to 11 of paragraph 59.

Accordingly, the Applicant respectfully submits that the areas of the keys taught by Chua are always distinct from one another and never overlap to form an intermediate region that represents more than one key. Furthermore, overlapping the area associated with the keys in this manner is not possible since some of Chua's embodiments of determining a selected key will become inoperable as is described in some of the paragraphs that now follow.

The Applicant further notes that Chua teaches different methods for determining a selected key than that taught and claimed by the Applicant. In a first approach, Chua teaches that, during a selection operation to select a key, the area of the touch screen that is touched by the user becomes the selected position. The symbol associated with the area where the touch screen was touched by the user becomes the key selected to appear as the next symbol in a message line (see paragraph 20 of Chua). Accordingly, only one key is selected to determine the next symbol.

The Applicant notes that this clearly teaches away from overlapping areas that are associated with keys to provide an intermediate region that represents more than one letter since Chua only teaches providing one symbol associated with the area where the touch screen was touched and not more than one symbol.

In an alternative, Chua teaches that the distance between the selected position and adjacent representative positions of keys is used to decide a first set of candidate keys for the desired symbol, which are then used to provide a list of potential words that would result from the input of any one of those keys. A list of these candidate words is then produced and displayed based on the frequency of use of these words and the distances between the selected position and the representative position of the keys (see the abstract and paragraph 27 in Chua).

For this distance-based technique, Chua further teaches that a processor decides appropriate candidate keys for what the user intended (i.e. the touched location which is

referred to as the selected position) based on calculations of the distances from the selected position 52 to representative positions 50t, 50y, 50g, 50h of the adjacent keys 22 (see Figure 3 in Chua). Also, when describing how to calculate the distances, Chua refers to keys being adjacent to one another (see the 6th line in paragraph 28 and the 2nd line in paragraph 29 in Chua).

The Applicant notes that this alternative method taught by Chua is also different than the method taught and claimed by the Applicant which is to detect a location of a user's touch on a touch interface, and for each area of the interface that includes the location, since at least some of the areas overlap, identifying the letter associated therewith. The Applicant further notes that Chua refers to adjacent keys, which teaches away from overlapping areas associated with letters. Furthermore, if Chua taught overlapping areas associated with different letters, which he does not, if the selected position was in an region covered by overlapping areas associated with two or more letters, then how would Chua select the adjacent keys? The Applicant respectfully submits that Chua does not describe this situation at all, which further supports the fact that Chua does not teach overlapping areas associated with letters. Chua simply describes using a pure distance based method to determine the candidate keys, which is further supported by paragraphs 28 and 29 of Chua, which describe not including keys that are more than a predetermined distance away from the selected position.

In another alternative method for determining the key selected by the user, Chua teaches obtaining the key in which the selected position falls as a potential key selection, working out the two closest sides of that key and including other keys that are in contact with any part of those two sides (see the 1st to 6th lines in paragraph 30 of Chua) as potential key selections.

The Applicant notes that this is different than associating areas of a touch screen with letters and overlapping the areas to define intermediate regions that represent more than one letter and then selecting the keys with areas in which the touch location resides. It is clear that Chua is referring to keys with areas that are adjacent to one

another and that do not overlap with one another. In addition, in order for this technique taught by Chua to work, non-overlapping areas for keys are required because how would one determine adjacent keys if the touch location falls on an area that represents more than one key? How would the first key be obtained? This alternative embodiment of the method as taught by Chua would not work in this instance due to the difficulty in obtaining the first key. Also, Chua does not address this issue since Chua defines the areas associated with the keys such that they do not overlap.

In another alternative method for determining the key selected by the user, Chua teaches an alternate method of selecting the candidate keys which consists of dividing the keys into quarters, obtaining a key in which the selected position falls as a first potential key candidate and then obtaining the keys adjacent to the key quarter in which the selected position falls as other potential key candidates (see the 6th to 9th lines in paragraph 30 of Chua).

The Applicant notes that this is also different than associating areas of a touch screen with letters and overlapping the areas to define intermediate regions that represent more than one letter and then selecting the keys with areas in which the touch location resides. Once again, it is clear that Chua is referring to keys with areas that are adjacent to one another and that do not overlap with one another. In addition, in order for this technique taught by Chua to work, non-overlapping keys are required because how would one determine the adjacent keys to the key quadrants in which the touch location falls if the touch location falls on an area that represents more than one key? This alternative embodiment of the method as taught by Chua would not work in this instance due to the difficulty in obtaining the first key. Chua does not address this issue since Chua defines the areas associated with the keys such that they do not overlap.

The Applicant respectfully submits that the above passages from Chua, either taken alone or in combination, clearly teach away from associating areas of a touch interface of a mobile electronic device with letters wherein at least some of the associated areas are defined to overlap with one another to form intermediate regions that represent

more than one letter as is recited in Applicant's claim 1. The Applicant notes that these passages also do not teach detecting a location of a user's touch on the touch interface, and for each area of the touch interface which includes the location, identifying the letter associated therewith.

The Applicant further notes that a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference (*MPEP §2131 citing Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987)). For at least the reason that Chua does not teach associating areas of a touch interface of a mobile electronic device with letters wherein at least some of the associated areas are defined to overlap with one another to form intermediate regions that represent more than one letter, the Applicant respectfully submits that Chua cannot anticipate claim 1.

Accordingly, the Applicant respectfully submits that claim 1 is novel and inventive over the cited reference and should be allowed. Furthermore, for at least the reason that claims 3 to 5, 16 to 19 and 34, depend either directly or indirectly from claim 1, the Applicant respectfully submits that these claims should also be allowed.

With regards to claim 6, the Examiner argued that Chua teaches a mobile electronic device comprising one or more touch interfaces to receive a touch by a user (page 2, paragraphs 19 and 20), means for displaying one or more rows of letters (page 2, paragraphs 19 and 20), means for associating overlapping areas of the one or more touch interfaces with the letters such that each area is associated with only one letter and at least one of the areas overlap with one another (page 2, paragraphs 19-24), and a microprocessor configured to identify which letters are associated with said areas of said touch interfaces that include a location of said touch (page 2, paragraphs 22 and 26).

With regards to claim 22, the Examiner argued that claim 22 is similar in scope to claim 6 and is rejected based on the same rationale.

In response, the Applicant respectfully submits that the arguments made above for claim 1 apply for the independent device claims 6 and 22. Accordingly, the Applicant respectfully submits that claims 6 and 22 are novel and inventive over the cited reference and should be allowed. Furthermore, for at least the reason that claims 7 to 15, 20 to 21, and 23 to 33 depend either directly or indirectly from one of claims 6 and 22, the Applicant respectfully submits that these claims should also be allowed.

In addition, the Applicant makes the following observations.

With respect to claims 12 and 28, the Examiner argued that Chua describes that for at least one particular letter, an area of the touchscreen associated with the particular letter is overlapped by an area of the touchscreen associated with a different letter of an adjacent row (paragraphs 19, 20 and 24 on page 2 of Chua).

As explained previously, the Applicant respectfully submits that Chua does not teach overlapping areas associated with a letter and that claims 12 and 28 are novel and inventive over Chua.

In sections 4 and 5 of the Office Action, the Examiner rejected claims 13, 14, 16, 17, 29 and 30 under 35 U.S.C. 103(a) as being unpatentable over Chua. With regards to claim 16, the Examiner acknowledged that Chua does not disclose that, for at least one particular letter, an area of the touch interface associated with the particular letter is completely overlapped jointly by a portion of an area of the touch interface associated with an adjacent letter to the left of the particular letter and by a portion of an area of the touch interface associated with an adjacent letter to the right of the particular letter. However, the Examiner argued that Chua does disclose allowing different letters to be represented by overlapped area by extending the offset which can be set by the user so that complete overlap is possible and that it would have been obvious to one having ordinary skill in the art to allow complete overlapping. The Examiner referred to paragraphs 24 and 29 on pages 2 and 3 of Chua. The Examiner then argued that

claims 13 and 29 are similar in scope to claim 16 and are rejected based on the same rationale.

With regards to claim 17, the Examiner acknowledged that Chua does not explicitly disclose that for at least one particular letter, an area of a touch interface associated with the particular letter is partially overlapped by a portion of an area of the touch interface associated with an adjacent letter to the left of the particular letter and by a portion of an area of the touch interface associated with an adjacent letter to the right of the particular letter. However, the Examiner argued that Chua does disclose allowing different letters to be represented by overlapped area by extending the offset which can be set by the user so that partial overlap is possible and that it would have been obvious to one having ordinary skill in the art to allow partial overlapping. The Examiner referred to paragraph 24 on page 2 of Chua. The Examiner then argued that claims 14 and 30 are similar in scope to claim 17 and are rejected based on the same rationale.

In response, the Applicant submits that claims 13, 16, and 29 now recite overlapping areas of adjacent letters on the one or more touch interfaces associated to form first and second intermediate region that are adjacent to one another. As explained previously by the Applicant, an intermediate region represents more than one letter and intermediate regions are not taught by Chua. Accordingly, the Applicant respectfully submits that claims 13, 16 and 29 should be allowed.

The Applicant further submits that claims 14, 17, and 30 now recite overlapping areas of adjacent letters on the one or more touch interfaces associated to form first and second intermediate regions that are not adjacent to one another. The Applicant has shown that intermediate regions are not taught by Chua. Accordingly, the Applicant respectfully submits that claims 14, 17 and 30 should be allowed.

In section 7 of the Office Action, the Examiner rejected claims 18, 20 and 32 under 35 U.S.C. 103(a) as being unpatentable over Chua in view of Suraqui (U.S. 7,199,786). With regards to claim 18, the Examiner acknowledged that Chua does not explicitly


disclose that for at least one particular letter, the associating step comprises associating an area of the touch interface with the particular letter by bounding the area by the horizontal centers of adjacent letters on the same row as the particular letter, and by the vertical centers of adjacent letters on upper and lower adjacent rows. The Examiner then argued that Suraqui discloses letters and centered in the vertical and horizontal centers (Fig. 4) and that it would have been obvious to display the letter by the centers in Chua as taught by Suraqui and that one of ordinary skill in the art would have been motivated to display the letter by centers because it is a design choice.

In response, the Applicant respectfully submits that Suraqui does not show letters centered in the vertical and horizontal centers. Firstly Suraqui teaches that the keys are laid out in an array format and that there is a single letter per key as specified in lines 1 to 4 in col. 18 of Suraqui. Furthermore, Figure 4A of Suraqui shows letters in a grid format where the boundary of each letter is not defined by horizontal and vertical centers of adjacent keys. The Applicant submits that lines that are defined by the horizontal and vertical centers of adjacent keys go through the key center. It is clear that none of the grid lines in Figure 4A of Suraqui go through the center of any keys. Furthermore, the grid lines shown in Figure 4B of Suraqui do not go through the horizontal centers of adjacent keys on the *same* row nor do the grid lines go through the vertical centers of adjacent letters on upper and lower adjacent rows. The definitions of horizontal and vertical centers of adjacent letters, which is recited in claims 18, 20 and 32 of the subject application, are defined in Figure 8A and the corresponding text in paragraph 49 of the subject application as filed. Accordingly, the Applicant respectfully submits that claims 18, 20 and 32 should be allowed.

Conclusion

In view of the foregoing comments, it is respectfully submitted that the application is now in condition for allowance. The Applicant respectfully requests that a timely Notice of Allowance be issued in this case. If the Examiner has any further concerns regarding the language of the claims or the applicability of the cited references, the Examiner is respectfully requested to contact the undersigned at 416-957-1603.

Respectfully submitted,
JASON T. GRIFFIN

By _____
Tony R. Orsi
Reg. No. 55,831
Tel: 416-957-1603